abcam

ab300641

Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045]

Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] is a Rabbit Recombinant Multiclonal antibody that is used in Histone H3 (acetyl K4+K9+K14+K18+K23+K27) Dot Blot, Flow Cytometry (Intra), ICC, IHC-Fr, IHC-P, IP, PepArr, Western Blot. Suitable for Human, Mouse, Rat samples.

Histone H3 acetylation at lysine residues K4, K9, K14, K18, K23, and K27 plays a crucial role in gene regulation by relaxing chromatin structure, making DNA more accessible for transcription. This acetylation promotes gene activation and facilitates various cellular processes such as DNA repair and replication. Additionally, it serves as a signal for other regulatory proteins involved in chromatin remodeling and gene expression

Recombinant | RabMAb | Advanced Validation | 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	Multiclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM1045
Purification technique	Affinity purification Protein A
Concentration	0.477 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ChIP

Not recommended

Species	Human, Rat, Mouse, Synthetic peptide - Human
Dilution info	-
Notes	-

Dot

Tested

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

Expected

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

PepArr

Tested

Species	Human
Dilution info	0.1 µg/mL
Notes	-

Expected

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

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Expected

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

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

ICC

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Species	Human
Dilution info	1/50
Notes	-

Expected

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

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Rat
Dilution info	1/500
Notes	-

Species	Mouse
Dilution info	1/500
Notes	-

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Rat
Dilution info	1/2000
Notes	-

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

WB

Tested

Species	Rat
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Synthetic peptide - Human
Dilution info	-
Notes	-

Target data

See full target information H3C1 acetyl K4 + K9 + K14 + K18 + K23 + K27

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.

Storage

Shipped at conditions	Blue Ice
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	Avoid freeze / thaw cycle

Notes

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal 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.

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

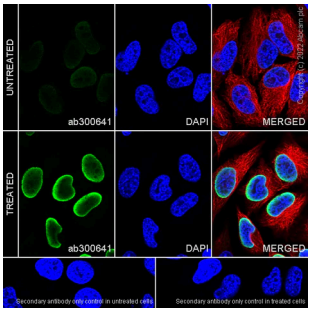
We do not recommend this combination. It is not covered by our product promise.

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.

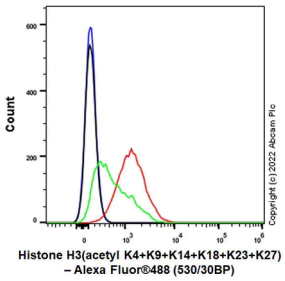
Full details and terms and conditions can be found here:
Terms & Conditions.

18 product images



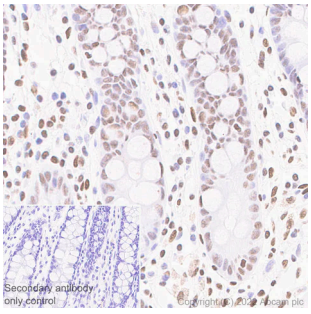
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Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labelling Histone H3(acetyl K4+K9+K14+K18+K23+K27) with ab300641 at 1/50 (9.54 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/mL dilution (Green). Confocal image showing increased nuclear staining in HeLa cells treated with 500 ng/mL TSA for 4 hours is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2ug/mL dilution.



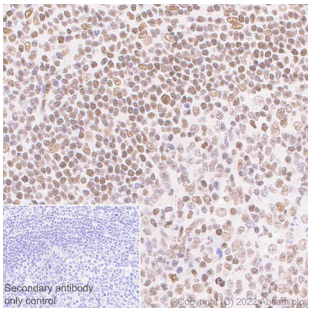
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Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell) treated with 500ng/ml TSA for 4h (Red) / Untreated control (Green) cells labelling Histone H3(acetyl K4+K9+K14+K18+K23+K27) with ab300641 at 1/500 dilution (0.1ug) (Red) and Green (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



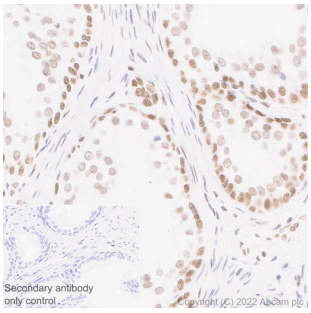
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641)

Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling Histone H3(acetyl K4+K9+K14+K18+K23+K27) with ab300641 at 1/2000 (0.239 ug/ml) followed by a LeicaDS9800 (Bond☒ Polymer Refine Detection) was used at Ready to use dilution. Nuclear staining on human colon. The section was incubated with ab300641 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond☒ Polymer Refine Detection) was used at Ready to use dilution. Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins



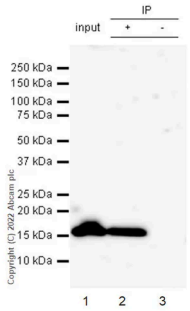
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Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling Histone H3(acetyl K4+K9+K14+K18+K23+K27) with ab300641 at 1/2000 (0.239 ug/ml) followed by a LeicaDS9800 (Bond☒ Polymer Refine Detection) was used at Ready to use dilution. Nuclear staining on human tonsil. The section was incubated with ab300641 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond☒ Polymer Refine Detection) was used at Ready to use dilution. Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641)

Immunohistochemical analysis of paraffin-embedded Human Prostatic hype tissue labeling Histone H3(acetyl K4+K9+K14+K18+K23+K27) with ab300641 at 1/2000 (0.239 ug/ml) followed by a LeicaDS9800 (Bond☒ Polymer Refine Detection) was used at Ready to use dilution. Nuclear staining on human prostatic hyperplasia. The section was incubated with ab300641 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond☒ Polymer Refine Detection) was used at Ready to use dilution. Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins



Immunoprecipitation - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641)

Histone H3(acetyl K4+K9+K14+K18+K23+K27) was immunoprecipitated from 0.35 mg HeLa (human cervical adenocarcinoma epithelial cell) treated with 500ng/ml TSA for 4h whole cell lysate 10 µg with ab300641 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab300641 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP) (ab131366) was used at 1/5000 dilution.

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

All lanes:
Immunoprecipitation - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641) at 1/30 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) (Input) treated with 500ng/ml TSA for 4h whole cell lysate at 10 µg

Lane 2:
ab300641 IP in HeLa treated with 500ng/ml TSA for 4h whole cell lysate

Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab300641 in HeLa treated with 500ng/ml TSA for 4h whole cell lysate

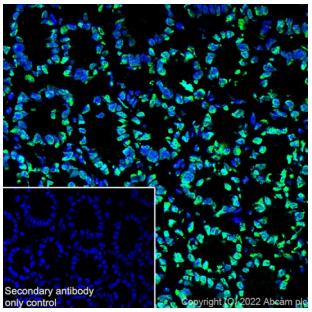
Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Predicted band size: 15 kDa

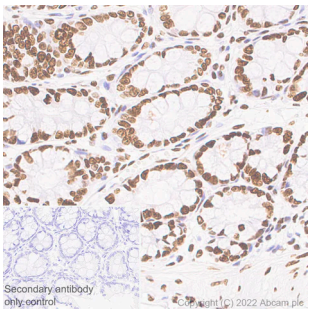
Observed band size: 15 kDa

Exposure time: 100s



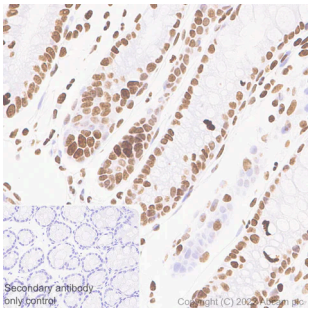
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Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse colon (fresh) tissue labeling Histone H3(acetyl K4+K9+K14+K18+K23+K27) with ab300641 at 1/500 (0.954 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution (Green). Positive staining on mouse colon is observed. The nuclear counterstain was DAPI (Blue). Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution.



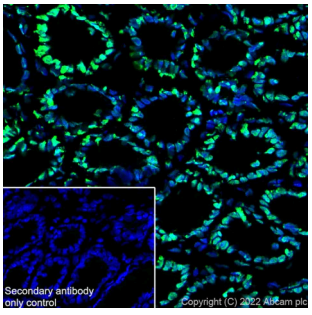
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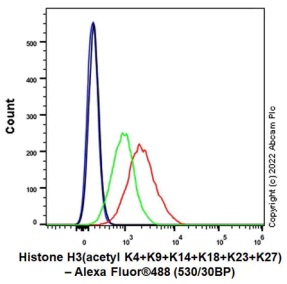
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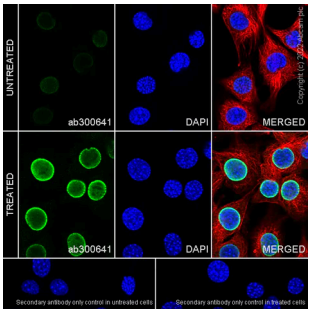
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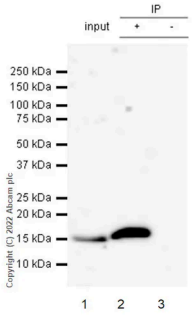
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Blocking and dilution buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641) at 1/30 dilution

Lane 1:
NIH/3T3 (mouse embryonic fibroblast) treated with 500ng/ml TSA for 4h whole cell lysate (Input) at 10 µg

Lane 2:
ab300641 IP in NIH/3T3 treated with 500ng/ml TSA for 4h whole cell lysate

Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab300641 in NIH/3T3 treated with 500ng/ml TSA for 4h whole cell lysate

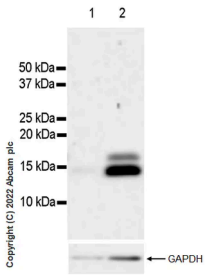
Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Predicted band size: 15 kDa

Observed band size: 15 kDa

Exposure time: 100s



Western blot - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641)

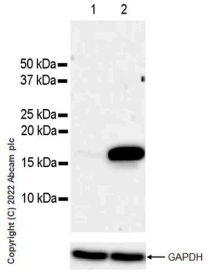
All lanes:
Western blot - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641) at 1/1000 dilution

Lane 1:
C6 (rat glial tumor glial cell) whole cell lysate at 20 µg

Lane 2:
C6 treated with /ml TSA for 4h whole cell lysate 20ug at 20 µg

Secondary

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



Western blot - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641)

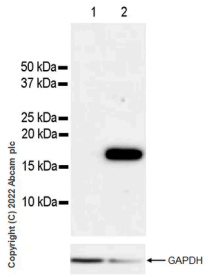
All lanes:
Western blot - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641) at 1/1000 dilution

Lane 1:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
HeLa treated with /ml TSA for 4h whole cell lysate at 20 µg

Secondary

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



Western blot - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641)

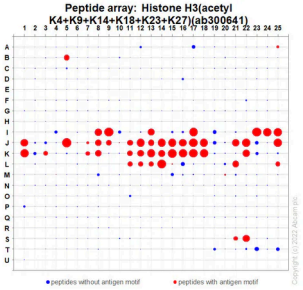
All lanes:
Western blot - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641) at 1/1000 dilution

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

Lane 2:
NIH/3T3 treated with /ml TSA for 4h whole cell lysate at 20 µg

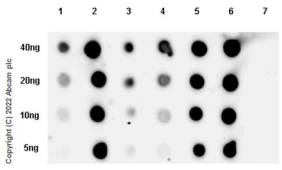
Secondary

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



Peptide Array - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641)

Peptide array analysis of ab300641 at 0.1ug/ml (0.1ug/ml) followed by a Goat Anti-Rabbit IgG (H+L) Fluo 647nm conjugated at 1:50000 dilution. All batches of ab300641 are tested in Peptide Array against 501 different modified and unmodified histone peptides; each peptide is printed on the array at six concentrations (each in triplicate).Circle area represents affinity between the antibody and a peptide: all antigen-containing peptides are displayed as red circles all other peptides as blue circles. The affinity is calculated as the area under the curve when antibody binding values are plotted against the corresponding peptide concentration. Each circle area is normalized to the peptide with the strongest affinity. The complete dataset, including full list of all peptides and information on the position of each peptide in the diagram, is available under the Product Protocol section.



Dot Blot - Anti-Histone H3 (acetyl K4+K9+K14+K18+K23+K27) antibody [RM1045] (ab300641)

Dot blot analysis of Histone H3(acetyl K4+K9+K14+K18+K23+K27) using ab300641 at 1: 1000 dilution (0.477 µg/ml) followed by a Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1:10,000 dilution. Lane 1: Histone H3 (acetyl K4) peptide Lane 2: Histone H3 (acetyl K4) peptide Lane 3: Histone H3 (acetyl K14) peptide Lane 4: Histone H3 (acetyl K18) peptide Lane 5: Histone H3 (acetyl K23) peptide Lane 6: Histone H3 (acetyl K27) peptide Lane 7: Histone H3 unmodified peptide Exposure time: 40 seconds. Blocking and diluting buffer and concentration: 5% NFDM/TBST

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