abcam

Product datasheet

Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free ab213701

KO VALIDATED Recombinant RabMAb

1 Abreviews 7 References 13 Images

Overview

Product name	Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free
Description	Rabbit monoclonal [EPR460(2)] to HDAC1 - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** Flow Cyt (Intra), IP, IHC-P, WB, IHC-Fr, ICC/IF **Unsuitable for:** ChIP
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	IHC-Fr: Mouse hippocampus tissue. ICC/IF: NIH/3T3, HeLa cells.
General notes	ab213701 is the carrier-free version of **ab109411**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications. Use our **conjugation kits** for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc. 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 production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR460(2)
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab213701 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)		Use at an assay dependent concentration. **ab199376** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
IP		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		Use at an assay dependent concentration. Predicted molecular weight: 55 kDa.
IHC-Fr		Use at an assay dependent concentration. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20)
ICC/IF		Use at an assay dependent concentration.

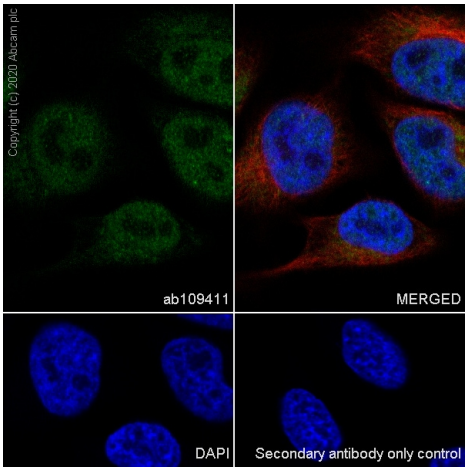
Application notes Is unsuitable for ChIP.

Target

Function Responsible for the deacetylation of lysine residues on the N-terminal part of the core histones (H2A, H2B, H3 and H4). Histone deacetylation gives a tag for epigenetic repression and plays an important role in transcriptional regulation, cell cycle progression and developmental events. Histone deacetylases act via the formation of large multiprotein complexes. Deacetylates SP proteins, SP1 and SP3, and regulates their function. Component of the BRG1-RB1-HDAC1

	complex, which negatively regulates the CREST-mediated transcription in resting neurons. Upon calcium stimulation, HDAC1 is released from the complex and CREBBP is recruited, which facilitates transcriptional activation. Deacetylates TSHZ3 and regulates its transcriptional repressor activity. Deacetylates 'Lys-310' in RELA and thereby inhibits the transcriptional activity of NF-kappa-B.
Tissue specificity	Ubiquitous, with higher levels in heart, pancreas and testis, and lower levels in kidney and brain.
Sequence similarities	Belongs to the histone deacetylase family. HD type 1 subfamily.
Post-translational modifications	Sumoylated on Lys-444 and Lys-476; which promotes enzymatic activity. Desumoylated by SENP1. Phosphorylation on Ser-421 and Ser-423 promotes enzymatic activity and interactions with NuRD and SIN3 complexes. Ubiquitinated by CHFR, leading to its degradation by the proteasome.
Cellular localization	Nucleus.

Images

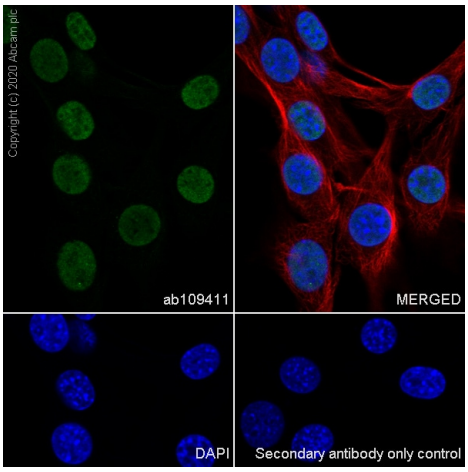


Immunocytochemistry/ Immunofluorescence - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa cells labelling HDAC1 with **ab109411** at 1/50 (10.92 ug/ml) dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 2ug/ml dilution (Green). Confocal image showing mainly nuclear staining in HeLa cell line **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 **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1000 2ug/ml dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).

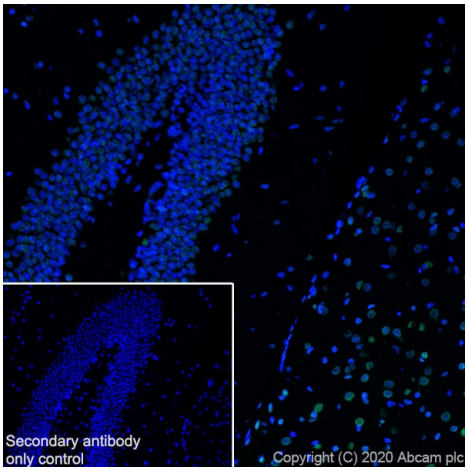


Immunocytochemistry/ Immunofluorescence - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 cells labelling HDAC1 with **ab109411** at 1/50 (10.92 ug/ml) dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 2ug/ml dilution (Green). Confocal image showing nuclear staining in NIH/3T3 cell line **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 **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1000 2ug/ml dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).



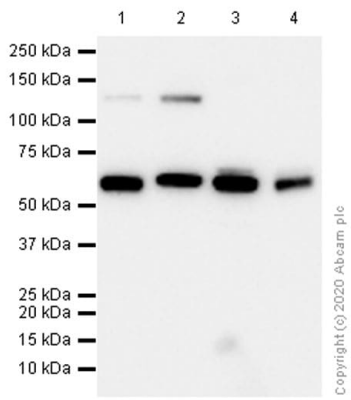
Immunohistochemistry (Frozen sections) - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse hippocampus tissue labeling HDAC1 with **ab109411** at 1/500 (5.55 ug/ml) dilution followed by **ab150077** AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 (2 ug/ml) dilution (Green). Nuclear staining on mouse hippocampus. is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** AlexaFluor®488 Goat anti-Rabbit secondary at 1000 (2 ug/ml) dilution.<\p>

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).



Western blot - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

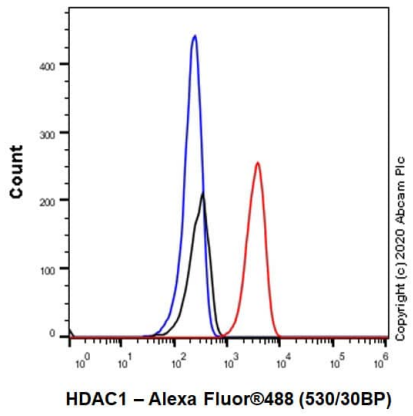
All lanes : Anti-HDAC1 antibody [EPR460(2)] (**ab109411**) at 1/1000 dilution (Purified)

Lane 1 : Jurkat (Human T cell leukemia T lymphocyte) whole cell lysate
Lane 2 : HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate
Lane 3 : NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate
Lane 4 : C6 (Rat glial tumor glial cell) whole cell lysate

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

Predicted band size: 55 kDa

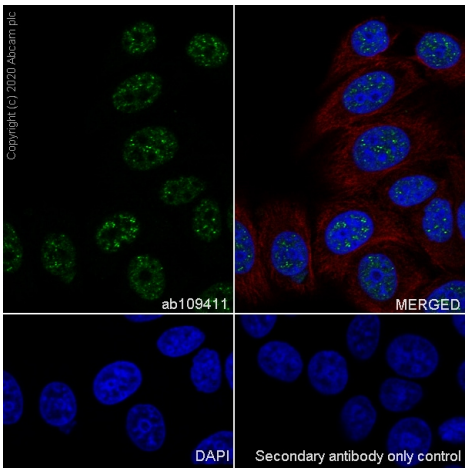
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).



Flow Cytometry (Intracellular) - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labelling HDAC1 with Purified **ab109411** at 1:20 dilution (5 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, **ab150081**) secondary antibody was used at 1:2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabelled control - Cell without incubation with primary antibody and secondary antibody (Blue).

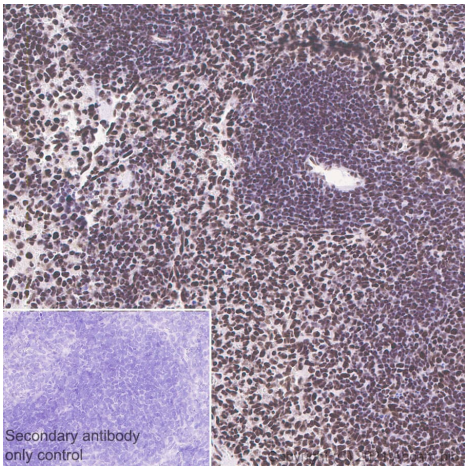
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).



Immunocytochemistry/ Immunofluorescence - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

Immunocytochemistry analysis of MCF7 (Human breast adenocarcinoma epithelial cell) cells labeling HDAC1 with Purified **ab109411** at 1:50 dilution (2.4 µg/ml). Cells were fixed in 100% Methanol and permeabilized with 0.1% tritonX-100. Cells were counterstained with Ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.

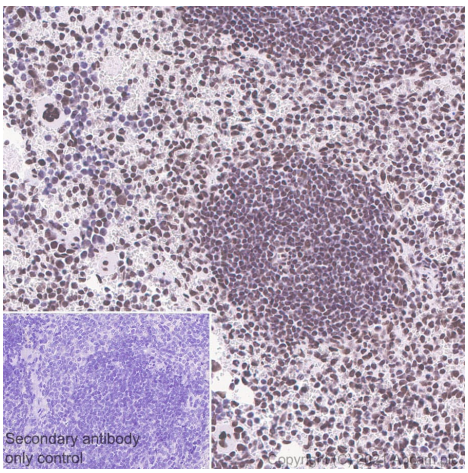
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat spleen tissue sections labeling HDAC1 with Purified **ab109411** at 1:100 dilution (1.2 µg/ml). Heat mediated antigen retrieval was performed using . Tissue was counterstained with Hematoxylin. Perform heat mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.

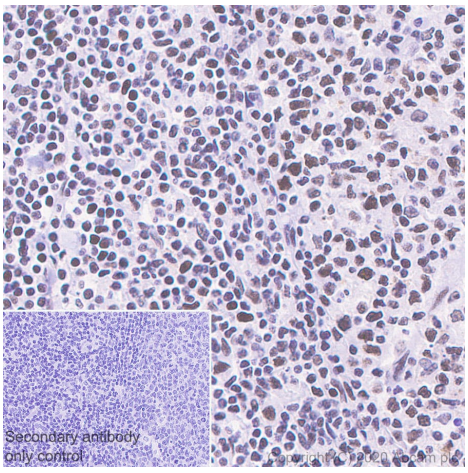
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse spleen tissue sections labeling HDAC1 with Purified **ab109411** at 1:100 dilution (1.2 µg/ml). Heat mediated antigen retrieval was performed using . Tissue was counterstained with Hematoxylin. Perform heat mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.

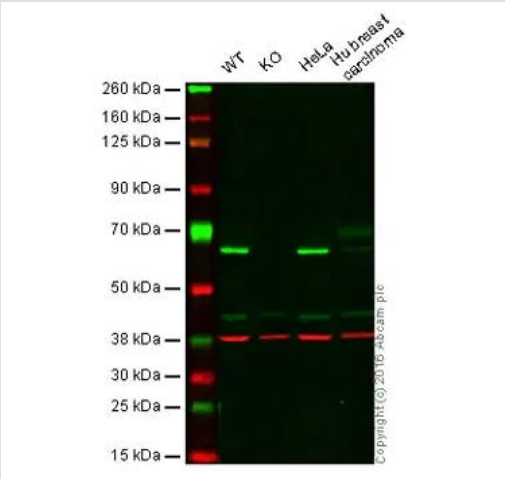
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue sections labeling HDAC1 with Purified **ab109411** at 1:100 dilution (1.2 µg/ml). Heat mediated antigen retrieval was performed using . Tissue was counterstained with Hematoxylin. Perform heat mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.

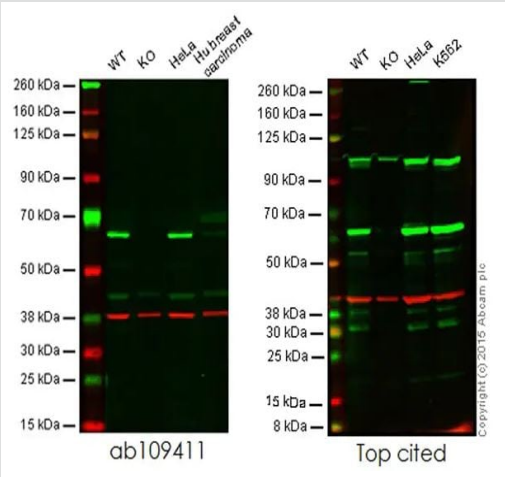
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).



Western blot - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: HDAC1 knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: Human breast carcinoma lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - **ab109411** observed at 65 kDa. Red - loading control, **ab8245**, observed at 37 kDa.
ab109411 was shown to recognize HDAC1 when HDAC1 knockout samples were used, along with additional cross-reactive bands. Wild-type and HDAC1 knockout samples were subjected to SDS-PAGE. **ab109411** and **ab8245** (loading control to GAPDH) were diluted 1/1000 and 1/10,000 respectively and incubated overnight at 4°C. Blots were developed withGoat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (**ab216776**) secondary antibodies at 1/10,000 dilution for 1 h at room temperature before imaging

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).



Western blot - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: HDAC1 knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: Human breast carcinoma lysate (20 µg) or K562 lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - **ab109411** observed at 65 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

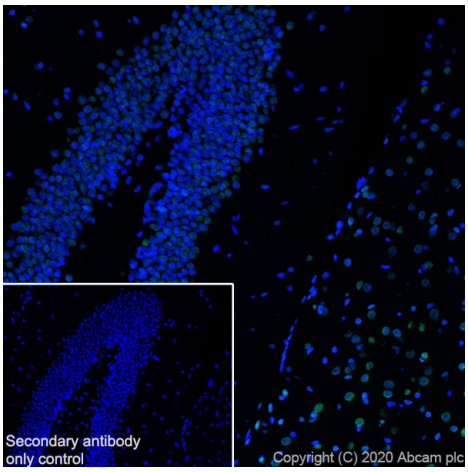
This western blot image is a comparison between **ab109411** and a competitor's top cited rabbit polyclonal antibody.

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: HDAC1 knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: Human breast carcinoma lysate (20 µg) or K562 lysate (20 µg)

Lanes 1 - 4: Merged signal (red and green). Green - **ab109411** observed at 65 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

This western blot image is a comparison between **ab109411** and a competitor's top cited rabbit polyclonal antibody.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).



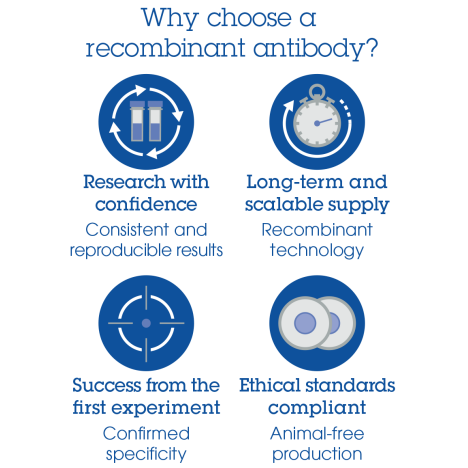
Immunohistochemistry (Frozen sections) - Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

Immunohistochemical analysis of 4% PFA fixed, 0.2% Triton X-100 permeabilised Mouse hippocampus staining HDAC1 with **ab109411** at 1/500 dilution (5.55 µg/ml). **ab150077** AlexaFluor®488 Goat anti-Rabbit was used as a secondary at 1/1000 (2 µg/ml) dilution. Nuclear counterstain: DAPI.

Nuclear staining on mouse hippocampus.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab109411**).



Anti-HDAC1 antibody [EPR460(2)] - BSA and Azide free (ab213701)

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours

- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors